



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/800,705

03/16/2004

Manabu Nomura

01-612

1658

23400

7590

01/25/2006

POSZ LAW GROUP, PLC  
12040 SOUTH LAKES DRIVE  
SUITE 101  
RESTON, VA 20191

EXAMINER

THOMAS, LUCY M

ART UNIT

PAPER NUMBER

2836

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/800,705	<b>Applicant(s)</b> NOMURA ET AL.	
	<b>Examiner</b> Lucy Thomas	<b>Art Unit</b> 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 4 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/16/2004</u> .   | 6) <input type="checkbox"/> Other: ____.                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshimura et al. (US 6,016,965). Yoshimura discloses a motor control apparatus 10 (see Figure 3) comprising: a semiconductor switching device 101 provided in a current conduction path of a motor 2; a driving circuit 103 for carrying out an operation to generate a control signal for turning the semiconductor switching device on and off; and an over-current protection circuit (see 106, 107, 108, 109, 110 in Figure 3) for outputting an abnormality detection signal (output signal of 107) for stopping the operation carried out by the driving circuit when a current flowing through the motor exceeds a predetermined threshold value (Column 4, lines 1-15), wherein the over-current protection circuit is for repeatedly carrying out a timer operation to stop the abnormality detection signal for an ON time period set in advance before producing the abnormality detection signal for an OFF time period also set in advance when the current flowing through the motor exceeds a predetermined threshold value (Column 1, lines 52-62, Column 3, lines 41-44, Column 5, lines 4-11, 56-59, 65-69, Column 6, lines 33-57), and for controlling to lengthen the OFF time period to a relatively larger value in comparison with the ON time period by such a difference that, the larger the current flowing through

Art Unit: 2836

the motor, the larger the difference during the operation period of the timer operation (Column 4, 19-26).

Regarding Claim 4, Yoshimura discloses the motor control apparatus of Claim 1 and further discusses over current protection circuit which includes a first comparing means (see S3 in Figure 11) for comparing the current of the motor with a first threshold value to produce a first signal when the current exceeds the first threshold value; second comparing means (see S5 in Figure 11) for comparing the current of the motor with a second threshold value higher than the first threshold value to produce a second signal when the current exceeds the second threshold value; timer means (see S6 in Figure 11) for measuring a predetermined time period in response to the first signal; and latch means (see S7 in Figure 11) for latching an abnormality of the current of the motor to produce the abnormality detection signal, when the second signal is produced from the second comparing means within the predetermined time period measured by the timer means (Figure 11, Column 6, lines 33-57).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshimura et al. (US 6,016,965). Regarding Claim 3, Yoshimura discloses a motor

Art Unit: 2836

control apparatus, further comprising: a signal processing circuit 102 for outputting a pulse width modulation signal having a duty ratio depending on an input voltage to the driving circuit, and a configuration including a discharge circuit for pulling down the direct current voltage signal to a zero level when the over-current protection circuit outputs the abnormality detection signal (Column 3, lines 27-39, Column 4, lines 30-44). Yoshimura does not expressly disclose an input signal conversion circuit for supplying a direct current voltage signal produced as a result of integration of a pulse train output level command signal received from an external source to the signal processing circuit and that the input signal conversion circuit has the discharge circuit, but would necessarily be a part of the signal processing circuit 102 for the signal processing circuit to function as intended.

***Allowable Subject Matter***

5. Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Hajime (JP-A-H09-308261) reference has been considered for 103 rejections for Claim 2. Hajime reference discloses a motor control apparatus, wherein the over-current protection circuit includes a latch circuit 28 for outputting the abnormality detection signal Sc in a set state, a first timer means and a second timer means (Paragraph 9), but lacks a first and second current threshold cooperating with a first and second timer means as recited in Claim 2.

**Conclusion**

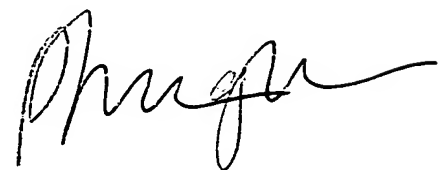
6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5,595,064, US 6,593,717, US 6,509,706, US 6,512,346.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucy Thomas whose telephone number is 571-272-6002. The examiner can normally be reached on Monday - Friday 8:00 AM - 4:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2058. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LT  
January 11, 2006



PHUONG T. V.  
PRIMARY EXAMINER